WHAT IS CLAIMED IS:

1. An isolated nucleic acid encoding a G-protein coupled receptor polypeptide, the nucleic acid encoding a polypeptide comprising greater than 70% amino acid identity to an amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

2. An isolated nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide comprising greater than 80% amino acid identity to an amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

3. An isolated nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide comprising greater than 90% amino acid identity to an amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

4. The isolated nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide that specifically binds to polyclonal antibodies generated against an amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

5. The isolated nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide that has G-protein coupled receptor activity.

6. The isolated nucleic acid of claim 1, wherein the nucleic acid encodes a polypeptide comprising an amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

7. The isolated nucleic acid of claim 1, wherein the nucleic acid comprises the nucleotide sequence of SEQ ID NO:5, SEQ ID NO:3, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, or SEQ ID NO:15.

8. The isolated nucleic acid of claim 1, wherein the nucleic acid is amplified by primers that specifically hybridize under stringent hybridization conditions to a nucleic acid having a nucleotide sequence of SEQ ID NO:5, SEQ ID NO:3, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, or SEQ ID NO:15.

9. An isolated nucleic acid encoding a G-protein coupled receptor polypeptide, wherein the nucleic acid specifically hybridizes under stringent hybridization conditions to a nucleic acid having a nucleotide sequence of SEQ ID NO:5, SEQ ID NO:3, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, or SEQ ID NO:15.

10. An isolated nucleic acid encoding a G-protein coupled receptor polypeptide, the polypeptide encoded by the nucleic acid comprising greater than about 70% amino acid identity to a polypeptide having an amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16, wherein the nucleic acid selectively hybridizes under moderately stringent hybridization conditions to a nucleotide sequence of SEQ ID NO:5, SEQ ID NO:3, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, or SEQ ID NO:15.

11. An isolated nucleic acid encoding a G-protein coupled receptor polypeptide, wherein the nucleic acid encodes a polypeptide comprising at least 25 contiguous amino acids of the amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

12. The isolated nucleic acid of claim 11, wherein the nucliec acid encodes a polypeptide that comprises at least 50 contiguous amino acids of the amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

13. An isolated nucleic acid encoding a G-protein coupled receptor polypeptide, wherein the nucleic acid encodes a polypeptide comprising greater than 90% amino acid identity to an amino acid sequence of SEQ ID NO:2 or SEQ ID NO:14.

14. The isolated nucleic acid of claim 13, wherein the nucleic acid encodes a polypeptide that specifically binds to polyclonal antibodies generated against an amino acid sequence of SEQ ID NO:2 or SEQ ID NO:14.

15. The isolated nucleic acid of claim 13, wherein the nucleic acid encodes a polypeptide that has G-protein coupled receptor activity.

16. The isolated nucleic acid of claim 13, wherein the nucleic acid encodes a polypeptide comprising an amino acid sequence of SEQ ID NO:2 or SEQ ID NO:14.

17. The isolated nucleic acid of claim 13, wherein the nucleic acid comprises the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:13.

18. An isolated nucleic acid encoding a G-protein coupled receptor polypeptide, the polypeptide encoded by the nucleic acid comprising greater than about 90% amino acid identity to a polypeptide having an amino acid sequence of SEQ ID NO:2 or SEQ ID NO:14, wherein the nucleic acid selectively hybridizes under moderately stringent hybridization conditions to a nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:13.

19. An isolated G-protein coupled receptor polypeptide, the polypeptide comprising greater than about 70% amino acid sequence identity to an amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

20. The isolated polypeptide of claim 19, wherein the polypeptide comprises greater than 80% amino acid sequence identity to an amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

21. The isolated polypeptide of claim 19, wherein the polypeptide comprises greater than 90% amino acid sequence identity to an amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

22. The isolated polypeptide of claim 19, wherein the polypeptide specifically binds to polyclonal antibodies generated against SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

23. The isolated polypeptide of claim 19, wherein the polypeptide has G-protein coupled receptor activity.

24. The isolated polypeptide of claim 19, wherein the polypeptide has the amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

25. An isolated G-protein coupled receptor polypeptide, the polypeptide comprising greater than about 90% amino acid sequence identity to an amino acid sequence of SEQ ID NO:2 or SEQ ID NO:14.

26. The isolated polypeptide of claim 25, wherein the polypeptide specifically binds to polyclonal antibodies generated against SEQ ID NO:2 or SEQ ID NO:14.

27. The isolated polypeptide of claim 25, wherein the polypeptide has G-protein coupled receptor activity.

28. The isolated polypeptide of claim 25, wherein the polypeptide has an amino acid sequence of SEQ ID NO:2 or SEQ ID NO:14.

29. An antibody that selectively binds to the polypeptide of claim 19, or 25.

30. An expression vector comprising the nucleic acid of claim 1, 11, or 13.

31. A host cell transfected with the vector of claim 30.

32. A method for identifying a compound that modulates signal transduction, the method comprising:

(i) contacting the compound with a polypeptide comprising greater than 70% amino acid sequence identity to the amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16; and

(ii) determining the functional effect of the compound upon the polypeptide.

33. The method of claim 32, wherein the polypeptide has G-protein coupled receptor activity.

34. The method of claim 32, wherein the polypeptide is linked to a solid phase.

35. The method of claim 34, wherein the polypeptide is covalently linked to a solid phase.

36. The method of claim 32, wherein the functional effect is determined by measuring changes in intracellular cAMP, IP3, or Ca^{2+}.

37. The method of claim 32, wherein the functional effect is a chemical effect.

38. The method of claim 32, wherein the functional effect is a physical effect.

39. The method of claim 32, wherein the functional effect is determined by measuring binding of the compound to the polypeptide.

40. The method of claim 32, wherein the polypeptide is recombinant.

41. The method of claim 32, wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:6, SEQ ID NO:4, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, or SEQ ID NO:16.

42. The method of claim 32, wherein the polypeptide is expressed in a cell or cell membrane.

43. The method of claim 42, wherein the cell is a eukaryotic cell.

44. The method of claim 43, wherein the cell is an adipocyte.

45. The method of claim 43, wherein the cell is a spleen cell.

46. The method of claim 43, wherein the cell is a colon cell.

47. The method of claim 43, wherein the cell is a neuron.

48. A method for identifying a compound that modulates signal transduction, the method comprising the steps of:

(i) contacting the compound with a polypeptide comprising greater than 90% amino acid sequence identity to the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:14; and

(ii) determining the functional effect of the compound upon the polypeptide.

49. The method of claim 48, wherein the polypeptide has G-protein coupled receptor activity.

50. The method of claim 48, wherein the polypeptide is linked to a solid phase.

51. The method of claim 48, wherein the functional effect is determined by measuring changes in intracellular cAMP, IP3, or Ca^{2+}.

52. The method of claim 48, wherein the functional effect is a chemical effect.

53. The method of claim 48, wherein the functional effect is a physical effect.

54. The method of claim 48, wherein the functional effect is determined by measuring binding of the compound to the polypeptide.

55. The method of claim 48, wherein the polypeptide is recombinant.

56. The method of claim 48, wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:14.

57. The method of claim 48, wherein the polypeptide is expressed in a cell or cell membrane.

58. The method of claim 57, wherein the cell is a eukaryotic cell.

59. The method of claim 58, wherein the cell is a kidney cell.

60. A method of treating kidney disease, the method comprising the step of administering to a patient a therapeutically effective amount of a compound identified using the method of claim 48.

61. A method of treating cerebral cavernous malformations, the method comprising the step of administering to a patient a therapeutically effective amount of a compound identified using the method of claim 48.

62. A method of treating hyperlipidemia, the method comprising the step of administering to a patient a therapeutically effective amount of a compound identified using the method of claim 32.

63. A method of treating obesity, the method comprising the step of administering to a patient a therapeutically effective amount of a compound identified using the method of claim 32.

64. A method of treating dyslexia, the method comprising the step of administering to a patient a therapeutically effective amount of a compound identified using the method of claim 32.

65. A method of treating cardiac myxoma, the method comprising the step of administering to a patient a therapeutically effective amount of a compound identified using the method of claim 32.

66. A method of detecting the presence of an TGR-GPCR or a EDG-GPCR nucleic acid or polypeptide in human tissue, the method comprising the steps of:

(i) isolating a biological sample;

(ii) contacting the biological sample with a TGR-GPCR-specific reagent or a EDG-GPCR-specific reagent that selectively associates with an TRG-GPCR nucleic acid or polypeptide or a EDG-GPCR nucleic acid or polypeptide; and,

(iii) detecting the level of TGR-GPCR-specific reagent or EDG-GPCR-specific reagent that selectively associates with the sample.

67. The method of claim 66, wherein the TGR-GPCR-specific reagent or EDG-GPCR-specific reagent is selected from the group consisting of: antibodies, oligonucleotide primers, and nucleic acid probes.